

Claims:

1. A knife for a wood chipping apparatus, comprising opposed front and back sides co-terminating in at least one cutting edge, the knife having an elongate axis, wherein said back side includes at least one groove having a semi-circular cross-section in a plane perpendicular to said elongate axis.

2. The knife of claim 1, wherein said front and back sides co-terminate in two cutting edges and the knife is bilaterally symmetric about a plane parallel to said elongate axis.

3. The knife of claim 1, wherein said back side includes only one said groove.

4. The knife of claim 3, wherein said front and back sides co-terminate in two cutting edges and the knife is bilaterally symmetric about a plane parallel to said elongate axis.

5. The knife of claim 1, wherein said front side includes at least one deflector ridge projecting therefrom.

6. The knife of claim 5, wherein said front and back sides co-terminate in two cutting edges, wherein said front side includes two deflector ridges, and the knife is bilaterally symmetric about a plane parallel to said elongate axis.

7. The knife of claim 1, wherein said groove has a substantially half-circular cross-section in said plane.

8. The knife of claim 7, wherein said front and back sides co-terminate in two cutting edges and the knife is bilaterally symmetric about a plane parallel to said elongate axis.

9. The knife of claim 7, wherein said back side includes only one said groove.

10. The knife of claim 9, wherein said front and back sides co-terminate in two cutting edges and the knife is bilaterally symmetric about a plane parallel to said elongate axis.

11. The knife of claim 7, wherein said front side includes at least one deflector ridge projecting therefrom.

12. The knife of claim 11, wherein said front and back sides co-terminate in two cutting edges, wherein said front side includes two deflector ridges, and the knife is bilaterally symmetric about a plane parallel to said elongate axis.

13. A knife for a wood chipping apparatus, comprising opposed front and back sides co-terminating in two cutting edges defining a plane wherein said front side is below said plane and said back side is above said plane, the knife having an elongate axis, wherein said front side includes at least two points of maximum distance from said plane and a surface therebetween of lesser distance from said plane to define a recess between said two points, and wherein said back side includes at least one of (a) at least two points of maximum distance from said plane and a surface therebetween of lesser distance from said plane to define a recess between said two points of said back side, and (b) a surface of maximum distance from said plane and at least two points of lesser distance from said plane that bound said surface to define a projection between said two points of said back side, wherein said knife is bilaterally symmetric about a plane parallel to said elongate axis.

14. The knife of claim 13, wherein said back side includes (a).

15. The knife of claim 14, wherein said back side does not include (b).

16. The knife of claim 15, wherein said surface defined in (a) is semi-cylindrical.

4 17. The knife of claim 16¹⁸³, wherein said surface defined in (a) is substantially half-cylindrical.

18. A clamp for a knife having a back side for use in a wood chipping apparatus, comprising a back surface including a projection extending therefrom that
5 includes a tip portion having a semi-circular cross-section in a plane perpendicular to said axis.

19. The clamp of claim 18, wherein said projection includes at least two parallel sides connecting to said tip portion.

20. The clamp of claim 18, wherein the knife has an elongate axis, and
10 wherein said tip portion has a substantially half-circular cross-section in a plane perpendicular to said axis.

21. The clamp of claim 20, wherein said projection includes at least two parallel sides connecting to said tip portion, at least one of which is substantially perpendicular to a surface of said clamp that is immediately adjacent said projection.

22. The clamp of claim 18, including a threaded aperture extending through
15 the clamp for receiving a threaded member providing for an adjustable amount of translation of the threaded member with respect to the clamp.

23. The clamp of claim 22, wherein said tip portion has a substantially half-circular cross-section in said plane.

24. A clamp for clamping a knife having a back side for use in a wood chipping apparatus, comprising an inner surface for disposition proximate the back side of the knife including a projection extending therefrom, the clamp having a threaded aperture extending through the clamp for receiving a threaded member that provides for an adjustable amount of translation of the threaded member with respect to the clamp.

25. A clamp for clamping a knife having a back side for use in a wood chipping apparatus, comprising an inner surface for disposition proximate the back side of the knife including a projection extending therefrom, said projection having at least two sides that are substantially perpendicular to said inner surface, each connecting to a tip portion of said projection.

26. A wood chipping apparatus, comprising:

a knife having an elongate axis and a side terminating in a cutting edge; and

a clamp for clamping the knife, the clamp having an inner
surface for disposition proximate said side of said knife,
wherein said side includes an interlocking feature
adapted to interlockingly engage a complementary
interlocking feature of said surface of said clamp to
prevent the knife from slipping with respect to said
clamp along a first direction that is perpendicular to said
elongate axis while freely permitting separation of the
knife from said outer clamping member along a second
direction that is substantially perpendicular to said
elongate axis and to said first direction, said interlocking
feature of said surface of said clamp extending
sufficiently from said inner surface so that most of the
back side of said knife does not make contact with said
outer clamping member when the knife is clamped
thereby.

7 27. The apparatus of claim 26, wherein said interlocking features are adapted to permit rotation of said knife about said elongate axis.

8 28. A wood chipping apparatus, comprising:

a knife having an elongate axis, front and back sides co-terminating in a cutting edge, the knife being bilaterally symmetric with respect to a plane parallel to said elongate axis; and

5 a clamp for clamping the knife, the clamp having an inner surface for disposition proximate the back side of said knife, wherein the back side of said knife includes an interlocking feature adapted to interlockingly engage a complementary interlocking feature of said surface of
10 said clamp to prevent the knife from slipping with respect to said clamp along a first direction that is perpendicular to said elongate axis while freely permitting separation of the knife from said outer clamping member along a second direction that is
15 substantially perpendicular to said elongate axis and to said first direction.

9
29. The apparatus of claim 28, wherein said interlocking features are adapted to permit rotation of said knife about said elongate axis.

12 30. A wood chipping apparatus, comprising:

a knife having an elongate axis and front and back sides co-terminating in a cutting edge;

an outer clamping member for clamping the knife, the outer clamping member having an inner surface for disposition proximate the back side of said knife, wherein the back side of said knife includes an interlocking feature adapted to interlockingly engage a complementary interlocking feature of said surface of said outer clamping member to prevent the knife from slipping with respect to said clamp along a first direction that is perpendicular to said elongate axis while freely permitting separation of the knife from said outer clamping member; and

an inner clamping member for clamping the knife against said outer clamping member, the inner clamping member having an outer surface for disposition proximate the front side of said knife, wherein the front side of said knife includes an interlocking feature adapted to interlockingly engage a complementary interlocking feature of said surface of said inner clamping member to prevent the knife from slipping with respect to said inner

clamping member along a first direction that is perpendicular to said elongate axes while freely permitting separation of the knife from said inner clamping member.

5

11 10
31. The apparatus of claim 30, wherein said interlocking features of said back side of said knife and said inner surface of said outer clamping member are adapted to permit rotation of said knife about said elongate axis.

add a'

0004885 073001
000020 50884600